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What is claimed is:

1. A method for state sensing of a technical system (1), particularly an energy store, in which performance quantities (x) are measured and supplied to a state estimation routine, which determines the state variables (a) characterizing the current system state using a model based on system-dependent model parameters (p) and the measured performance quantities (x), the measured performance quantities (x) and possibly the determined state variables (a) additionally being able to be supplied to a parameter estimation routine, which in turn determines the model parameters (p) depending on the use, to improve the state estimation,
wherein a selection of state variables (a) and/or parameters (p) to be determined by estimation is performed depending on the dynamic response of the measured performance quantities (x).

2. The method according to Claim 1,
wherein the state variables (a) and/or parameters (p) not selected are maintained unchanged or set again by fixed predetermined models.

3. The method according to Claim 1 or 2,
wherein at a high dynamic response of the measured performance quantities (x), state variables (a) and/or parameters (p) having small time constants are selected for estimation, and at a low dynamic response, state variables and/or parameters having large time constants are selected for estimation.

4. The method according to one of Claims 1 to 3,

wherein it is determined before the estimation determination whether the system (1) is in a limit state, particularly at the beginning or at the end of its service life; and the state variables (a) and/or parameters (p) for estimation are not selected if the system (1) is in such a limit state.

5. The method according to one of Claims 1 to 4, wherein the quality of the estimation is checked on the basis of a covariance matrix.

6. The method according to Claim 5, wherein estimated state variables (a) and/or parameters (p) are only used further if their associated covariances of the covariance matrix converge.

7. A device for state sensing of a technical system (1), particularly an energy store, having means (2) for measuring the performance quantities (x) of this system (1) and having means (7) for supplying the measured performance quantities (x) to a state estimator (3), which determines the state variables (a) characterizing the current system state using a model based on system-dependent model parameters (p) and the measured performance quantities (x), a parameter estimator (4) also being able to be provided to improve the state estimation, to which the measured performance quantities (x) and possibly the state variables (a) determined may be supplied, and which determines the model parameters depending on the use,
wherein means (8) for detecting the dynamic response of the measured performance quantities (x) and a selection unit (9) connected to these means are provided, which select state variables (a) and/or parameters (p) to be determined in the state estimator (3) and/or in the parameter estimator (4) depending on the dynamic response detected.

8. The device according to Claim 7,

wherein means (10) for calculating a covariance matrix for the state variables (a) and/or parameters (p) to be determined and means (11) for evaluating the covariance matrix prepared are provided.

9. A computer program having program code means to carry out all of the steps of at least one of Claims 1 to 6, if the computer program is executed on a computer or a corresponding computer unit, particularly on the state estimator (3) and/or parameter estimator (4).

10. A computer program product having program code means which are stored on a computer-readable data carrier to carry out a method according to one of Claims 1 to 6, if the computer program product is executed on a computer or a corresponding computer unit, particularly the state estimator (3) and/or the parameter estimator (4).